Operations & Technology Working Group
Conference Call #3 Meeting Notes (FINAL)

TOPIC: SPEED LIMITS OF OVERSNOW VEHICLES IN THE PARK

Call Date & Time: April 28, 2014, 2:00-3:30 PM MDT
Phone: 1 (877) 638-1989 Passcode: 8955346#

Participation:

Present:
Bruce Austin, Public
Philip Frankovic, Jackson Hole Snowmobile Tours
David McCray, Two Top
Alicia Murphy, NPS
Molly Nelson, NPS
Kim Raap, Trails Work Consulting
Randy Roberson, Buffalo Bus
Clyde Seely, Three Bear/See Yellowstone
Wade Vagias, NPS
Jack Welch, Blue Ribbon Coalition
Don Bachman, Public
Ed Klim, ISMA
Jamie McCray, Two Top
Bart Melton, NPCA

Not Present:
Scott Carsley, Alpen Guides
Travis Watt, Three Bear/See Yellowstone
Kennedy Brown, TwoTop
Bill Howell, Yellowstone Arctic Cat Yamaha
Jason Howell, Yellowstone Arctic Cat Yamaha
Dan Stusek, Steve Daines' Office

Review and approval of 4/3/2014 Conference Call Notes on Rutting of Snowroads:

No comments on the Rutting of Snowroads notes from the group.

Update on actions from the 4/3/2014 Conference Call on Rutting of Snowroads:

1. Bruce had requested additional analyses/visual representation of the relationship between weight vs. displacement of snowcoaches tested as part of the "pass-by" rutting study.
   Update: Wade and Molly are working on how to investigate this question and if our existing structure design will support this analyses.
2. Bruce has resubmitted his whitepaper detailing potential factors that cause or worsen snowroad rutting.
   Update: Wade and Molly are reviewing Bruce's paper and will redistribute to the group for other group members to comment on.

Background on Speed Limits (please also see notes from 1st call (3/10/2014) pertaining to this topic):

1. Previously, all oversnow vehicles (OSVs) had a 45 mph speed limit; however, based on observations, most snowcoaches cruised at 20-25 mph and most snowmobiles cruised at 30-35 mph. Based on this information and other considerations, the NPS used 25 mph and 35 mph respectively to do air and noise emissions analysis in support of the 2013 Final Winter Use Plan/SEIS and final Rule.
2. Per the final Rule winter use, the speed limits will be 35 mph for snowmobiles and 25 mph for snowcoaches
3. The speed limit could potentially be changed, although it would necessitate a change to the winter use final Rule with appropriate analyses of the effects of this change on impact topics from the final Winter Use Plan/SEIS.

Discussion Topics & Notes:

What is the effect on travel times between primary points of origin and destination for snowmobiles at 45 MPH? Snowcoaches at 35 MPH?

Possible Trips*	Miles**	Travel minutes @ 25 mph	Travel minutes @ 35 mph	Travel minutes @ 45 mph
Flagg Ranch to Old Faithful	82.6	198	142	110
Flagg Ranch to Canyon	122.6	294	210	163
Flagg Ranch to Lower Loop	144.6	347	248	193
Mammoth Warming Hut to Old Faithful	97.6	234	167	130
Mammoth Warming Hut to Canyon	61.6	148	106	82
Mammoth Warming Hut to Lower Loop	133.6	321	229	178
Pahaska Tepee to Old Faithful	134.6	323	231	179
Pahaska Tepee to Canyon	90.6	217	155	121
Pahaska Tepee to Lower Loop	154.6	371	265	206
West to Old Faithful	60	144	103	80
West to Canyon	80	192	137	107
West to Lower Loop	124	298	213	165

* All tours in list return to their point of origin and this mileage includes the round trip.
** Mileages in table are based on the following assumed distances: 21 miles Mammoth to Norris; 12 miles Norris to Canyon; 16 miles Canyon to Lake/Fishing Bridge; 27 miles Lake/Fishing Bridge to East Entrance; 21 miles Lake/Fishing Bridge to West Thumb; 22 miles West Thumb to South Entrance; 17 miles West Thumb to Old Faithful; 16 miles Old Faithful to Madison; 14 miles Madison to West Entrance; 14 miles Madison to Norris. Also assuming that trips out of South actually start at Flagg Ranch (2.3 miles outside of the South Entrance), trips out of East actually start at Pahaska Tepee (2.3 miles outside of the East Entrance), and trips out of Mammoth actually start at the Mammoth Warming Hut (2.2 miles into the park from the Mammoth Area); appropriate mileage was added to trips from East and South and subtracted to trips from Mammoth. Trips out of West are assumed to start at the West Entrance.

Action(s) on Travel Times Table:

1. Molly will update according to the discussion, addressing point of origin (Flagg, Pahaska) and adding footnotes if necessary.
   Status: Done (see revised table, above)

Where do individual working group members stand on the issue of changing speed limits for snowmobiles? Snowcoaches? What speeds are group members interested in raising the level to and for which OSV types? Are there specific road segments individual group members are interested in raising the speed limits to? If so, which ones?

1. Ed Klim described this thought that the snowmobile speed limit is good because noise emissions as pertaining to New BAT certification and is adequate for riders
2. Don Bachman agreed with Ed on snowmobiles; felt the 25 MPH for snowcoaches could be examined. In the future, if low-pressure tires are examined, we should look at 25mph as regards to safety.
3. Jack Welch described 35 mph as adequate with proper scheduling to do round trips, so he can go along with that. Wade asked if he's making that statement for the south gate. Jack—Yes, there were very few times that his group was over 35mph b/c of the terrain, especially because of new riders.
4. Kim Rapp stated that the State of WY is concerned with travel distance from East-OF-East, it's a long time but won't make that much of a difference (less than an hour over the day) so it's not worth the risk from noise emissions. These numbers were deliberately chosen and a lot of work went into those numbers. It is probably not worth the cost to change the SEIS analysis.
5. Bart Melton stated that NPCA is most comfortable sticking with what was analyzed in the SEIS.
6. David McCray stated that the NPS caps things, knowing that the average will therefore be lower. But we should know that snowmobiles run better at faster machines. Sleds can overheat and not run as well at lower speeds. May want to make limits higher to make the average 35.
   a. Wade Vagias stated that his observations are that most groups are cruising at 30 to 35 already; asked David the question if optimal performance varies by machine? What affects the performance?
   b. David replied that it likely does vary by machine but since he only runs Arctic Cats, he's unsure about Ski Doo sleds or about future sleds. There are overheating issues because of slow speeds as well as road conditions.

Prior to the 4/28/2014 conference call, the following comments were received:

Scott Carsley: I appreciate the notion that we can have different speed limits for different vehicles and different road segments. However I believe it could be a moot point if the speed limit were raised to 35 mph for all vehicles. Snowcoaches now travel at their own safe speed

somewhere below 35 mph which is generally dictated by vehicle type, road condition and traffic.

I think different road segments could have higher speeds than other segments due to their remoteness, lack of traffic and few points of interest to create congestion. Basically everything outside the WY - OF - Norris corridors could be higher.

Randy Roberson: Here is an overview of my thoughts on OSV speed limits. These opinions are based on my experience and support the best practices for my company, including the type vehicles we operate for our OSV interpretive tours. These suggestions may not be a fit for other operators at other entrances or in West Yellowstone with different equipment.

Snowmobiles --- I support higher speed limits for snowmobiles. It reduces congestion by having different speed limits for different vehicle types within the busy corridors, and by nature, it more quickly moves guests to the "next" destination or attraction where interpretation can be given. (Snowmobile tour interpretation is only provided at stops)

Snowcoaches --- I believe, while guests are aboard, and in the more congested corridors (example-West Yellowstone to Old Faithful) that a 25 mph snowcoach speed limit is prudent for quality tours and safety.

The other corridors with less traffic and wildlife (example, Canyon to West Thumb) could have a higher speed limit. By design, the coaches that could travel at a higher speed safely (Bombs and Bigfoot) would probably be the only coaches that would attempt the loop. Perhaps Flagg to West Thumb should also be considered for a higher speed limit.

Snowcoaches--- While deadheading (no passengers) I would support a higher speed limit in all areas when traveling empty.

Should the NPS consider treating purpose-built snowcoaches differently than converted snowcoaches in terms of maximum allowable speed limits? What would be the consequences of doing so?

1. Wade Vagias indicated it was unfortunate that Scott Carsley was unable to make the call because this is an idea he has shared with Wade.
2. Clyde Seely stated he was not interested in allowing different models to have different speed limits. More interested in raising limits on road segments on the "backside" although we don't want to get over the thresholds for sound and air emissions. It's going to take more time to travel on the South to Canyon and Canyon to East Gate.
3. Kim Rapp agrees with the concept of higher limits with segments with less interactions with other visitors or animals—would add South to OF as a segment. Would not agree with segmenting out purpose-built snowcoach. Certainly, they can travel faster, but the thresholds that were analyzed dictated those speed limits and there aren't enough incentives to change even though some snowcoaches and snowmobile can go faster.

4. Clyde Seely stated that in regards to safety, purpose-built snowcoach hold the road better and so are safer but he doesn't want to support "mixing the bag" (allowing different snowcoaches to travel at different speeds).
5. Jack Welch stated that consistency is what we are looking for—the speed limits that we've adopted are appropriate for now. Maybe change in the future, but right now would be a mistake.

What would be the impact on: Noise emissions; Air emissions; Wildlife; Visitor experience; Safety of visitors and park personnel; for raising the maximum allowable speed limit for snowmobiles? Snowcoaches?

1. Bart Melton stated that regarding wildlife, increased speed increases the opportunity for unexpected impacts to wildlife. Also, we've set baselines for air emissions. Noise—snowmobile and snowcoach seem to be improving so not sure of the impact, but it seems that faster=louder so NPCA would be concerned. As for the visitor experience, faster may increase possibilities of accidents on snowmobile and snowcoach could be bumpier, although new technologies could change that as well.
2. Jack Welch indicated that we've covered some of these impacts in the other questions, but if speed is increased, it could negatively impact all topics, so that's another reason to leave things the way they are for the time being.
3. Wade Vagias provided background on the science of speed limits: Raising speed limits may negatively impact all impact topics with the exception of (1) air emissions on snowmobile because of snowmobile technology and (2) the visitor experience in term of reduced travel times.
    a. (1) Snowmobiles are created for optimal performance at 3500-6000 RPM (approximately). Based on NPS research, the highest pollutant loads appear to be at idle and low speeds and that the pollution levels drop as they get closer to their optimal cruising speed. Snowmobiles go through a 5-mode test with a gas analyzer with weighted scores to evaluate emissions.
    b. (2) Leaving south gate in a Bomb to go to Canyon, that's a long trip at 25mph. May be good to evaluate faster speed limits because there isn't much to see and may be better for the visitor to get there faster.
4. Kim Rapp agrees with Wade's comments; could be better vehicle experience to get out of the snowcoach rather than riding around.
5. Clyde Seely indicated that there are some numbers missing in table but just because the limit is 45, doesn't mean that the snowcoach or snowmobile will go that fast all the time. But there are some pretty boring stretches that would be nice to go faster through.
6. Kim Rapp cautioned the group to be careful with this. There are metrics of success for the commercially or non-commercially guided trips—LE citations are important part of

that. Let's not up speed limits because we assume that visitors won't speed; this could lead to more citations, which we don't want.

7. Travis Watt asked that while there have been significant studies and we're all on the same page for snowmobiles, is there much science on resource impacts for snowcoaches?
    a. Wade—There are so many variations in snowcoaches today (purpose-built, Mattracks, snow yacht, Bombs, Bigfoots) so we had to select 25 mph because it's the upper bounds of Mattracks, while realizing that Bombs can go faster. For scientific purposes (monitoring and later computer simulations/modeling, we needed a singular maximum speed limit). There is a considerable amount of science for sound and noise emissions but wildlife impacts are not as studied. If this is a priority moving forward, that may be a question to ask.
8. Randy Roberson expressed how for the visitor experience, travel speeds for longer distances becomes important. We might want to consider higher limits there because few things to see. In other locations, 25mph is more than adequate. But what about deadheading for non-Mattracks machines on the less-busy routes? Emissions probably less for empty snowcoach at 35 than full at 25.
9. Bruce Austin described how there is likely a self-limiting factor as related to speeds. There is a strong case for allowing snowcoach to go up to 35 if it's safe to do so because fewer cases of dangerous passing on the backend of the park. 35mph limit would encourage faster coaches to use those routes rather than the slower coaches. Lesser traveled segments should be signed at 35 for consistency between snowmobile and snowcoach. Purpose-built snowcoaches seem to cause less rutting, even at faster speeds, so this should not affect rutting on those segments.

What level of NEPA compliance would be required if the NPS decided to adopt speed limits different than those stated in the final Rule? What steps would be necessary to modify the final Rule?

1. Wade Vagias described how the final Rule can change but that it would take demonstrating that the changes would be within the bounds modeled in the SEIS or additional NEPA would be required. So, if snowcoach speed limits were increased, their noise and air emissions would need to be within the limits we have said are acceptable or additional research and understanding of the effects on the environment would be necessitated.

Additions questions this topic raises?

None were raised.

Wade Vagias summarized, as follows: What I've heard today is that 35 MPH is adequate for snowmobiles, partly because it's taken us a long time to get to this place with the final Rule and because most people on this call don't observe visitors going faster anyway. Regarding snowcoaches, there is concern about "mixing the bag" (allowing some snowcoaches to go 25

and others to potentially travel faster) but that there may be areas on the back side of the park where all snowcoaches should be allowed to travel up to 35 MPH if they do not exceed the BAT limitations.

General Action(s)

1. Draft notes from this call will be distributed no later than Friday, May 2nd to the Operations and Technology working group members. Comments, edits, addendums, etc. need to be emailed to Alicia Murphy (Alicia_Murphy@nps.gov) by no later than COB on Wednesday, May 7th.
   Status: Done
2. Final notes from this call will be distributed no later than Tuesday, May 13th to working group members.
   Status: Done

General Updates:

Today (April 28, 2014) was the due date for sub-concession agreements. You can contact Wade or George Helfrich for the list.
UPDATE: The final list of subconcessioners is still unavailable as of Tuesday, May 14, 2014

Ski-doo will certify 11 new vehicles for New-BAT for this winter, as follows (as of 5/2/2014):
EPA Engine Family: FBCXY.6007EG (Rotax 600 ACE)

- MX-Z SPORT 600 ACE
- RENEGADE SPORT 600 ACE
- GRAND TOURING SPORT 600 ACE
- TUNDRA SPORT 600 ACE
- TUNDRA LT 600 ACE
- EXPEDITION SPORT 600 ACE

EPA Engine Family: FBCXY.8997GF (Rotax 900 ACE)

- MX-Z TNT 900 ACE
- RENEGADE ADRENALINE 900 ACE
- GRAND TOURING LE 900 ACE
- GSX LE 900 ACE
- EXPEDITION SPORT 900 ACE

Update: The NPS has granted provisional New BAT certification for the snowmobile makes and models listed above (note all are Model Year 2015)

The NPS currently has an RFP out as part of the NPS process to own their fleet of snowmobiles. Proposals are due tomorrow (4/30/2014); contact Wade for more details.

Next conference call topic: Performance-based emissions for snowcoaches (similar to snowmobiles, however it would be based on "in-use" emissions, not emission values collected in a laboratory via engine dynamometer). Snowcoaches are currently technology-based emission specification certified. This is a technically-based discussion. Wade has reached out to Scott Miers, from Michigan Tech University, who works on this topic. Wade will invite Scott

to join our call to help us understand this topic and how we could implement a performance-based test.
Update: Scott Miers has agreed to join the next call to discuss snowcoach exhaust emissions. The call will be held on Tuesday, May 20, 2014 at 11 AM MDT. Call 1 (877) 638-1989 and enter code 8955346#.

Actions:

1. Wade will be sending out a Doodle poll for the next meeting to discuss snowcoach exhaust emissions.
   Status: Done
2. Please send discussion questions or agenda items to Wade on the topic of snowcoach performance-based emissions by Friday, May 9th.
   Status: Done

Molly Nelson and Wade Vagias are editing Bruce's report and will also look at Randy's report on his first year operating BigFoot snowcoaches in the park. Thank you, Randy, for sharing this information. We will be sending this info out to the group.

Jack Welch asked the NPS to be as clear as possible about RSVPs for the June meeting in your press release.
Update: A press release announcing the next face-to-face meeting has been distributed. Alicia has copies.

Wade Vagias indicated that there will be a concessioner's meeting at OF on May 21st on the 2nd floor conference room at OFSL.
Update: This meeting will begin at 1 PM on Wednesday May 21, 2014. Concessioners and subconcessioners are invited and encouraged to attend.